

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. 98-730

FOR  
COUNTY OF MERCED  
HIGHWAY 59 MUNICIPAL SOLID WASTE LANDFILL  
MERCED COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The County of Merced (hereafter Discharger), operates the Highway 59 municipal solid waste landfill approximately 6 miles north of the City of Merced, in Sections 23 and 24, T6S, R13E, MDB&M (Assessor's Parcel Number 78-200-75), as shown in Attachment A, which is incorporated herein and made part of this Order. The facility is jointly owned by the County of Merced and the cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced.
2. On 24 July 1998, the Board adopted Order No. 98-161, which prescribes waste discharge requirements for this facility, which is classified as a Class III landfill that accepts municipal solid waste in accordance with Title 27, California Code of Regulations, §20005 et seq. (Title 27).
3. The 164-acre waste management facility consists of two existing unlined Class III waste management units (hereafter Units 1 and 2) of 41 and 47 acres, respectively, an existing composite-lined Class III waste management unit (Unit 3, Phases 5-A and 5-B) of 7.0 and 5.2 acres, respectively, a Class II surface impoundment, and a sedimentation basin, as shown in Attachment B, which is incorporated herein and made part of this Order.
4. This Order requires the Discharger to implement and complete an evaluation monitoring program and implement a corrective action program that complies with the provisions of Title 27 in accordance with a time schedule incorporated in this Order.

**SITE DESCRIPTION**

5. The facility is on a broad north-south trending ridge within dissected uplands along the east side of the San Joaquin Valley. Surface elevations range between 195 and 280 feet above MSL.
6. The waste management units are underlain by unconsolidated alluvial plain and fan deposits of Pliocene to Holocene age and deeper alluvial deposits of the Miocene to Pliocene Mehrten Formation. The deposits consist of poorly-sorted clays, silt, sand and gravel, with some beds of claystone, siltstone, sandstone, and conglomerate. There is a

poorly graded sand zone between 75 and 100 feet below ground surface.

7. The measured hydraulic conductivity of the native soils underlying the waste management unit range between  $5.5 \times 10^{-4}$  and  $4.5 \times 10^{-4}$  cm/sec.
8. There are 5 domestic wells and 3 agricultural wells within a 1-mile radius of the site. In addition, the site has an agricultural supply well on site for dust control and a domestic supply well. No surface springs or other sources of groundwater supply have been observed.
9. The Board adopted the *Water Quality Control Plan for the San Joaquin Basin, Third Edition* (hereafter Basin Plan) which designates beneficial uses and contains water quality objectives for all waters of the Basin.
10. The first encountered groundwater is approximately 65 feet below the native ground surface. Groundwater elevations generally range from 140 feet above MSL near the northeastern corner of Unit 1 to 130 feet above MSL near the southwestern end of the facility.
11. Monitoring data indicates that the first encountered groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 10 feet.
12. The direction of groundwater flow is toward the southwest. The average groundwater gradient is approximately 0.001 feet per foot. The average groundwater velocity is 1.5 to 1.9 feet per year.
13. Monitoring data indicates that background groundwater quality is generally good, with a specific electrical conductivity range from 200 to 300 micromhos/cm, with Total Dissolved Solids ranging from 140 to 210 mg/l.
14. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.
15. The Discharger's detection monitoring program for groundwater at this Waste Management Unit satisfies the requirements contained Title 27.

### **GROUNDWATER DEGRADATION**

16. "Pollution" means an alteration of the quality of the waters of the State by waste to a degree which unreasonably affects: (1) such waters for beneficial uses, or (2) facilities which serve such beneficial uses [California Water Code, §13050 (1)]. Water quality objectives are levels of constituents that are established for the reasonable protection of

beneficial uses of waters. Exceedence of water quality objectives, including Maximum Contaminant Levels, constitutes pollution.

17. Section 13304 (a) of the California Water Code states:

“Any person...who has caused or permitted...any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action...”

18. Section 13267 (b) (1) of the California Water Code states:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste within its region...shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires...”

19. Groundwater monitoring has been conducted at the landfill since 1989. The volatile organic constituent (VOC) dichlorodifluoromethane has repeatedly been detected in detection monitoring well MW-2A at concentrations above the water quality objective since September 1993. No Maximum Contaminant Levels have been established for this constituent. The applicable water quality objective for dichlorodifluoromethane is the U.S.E.P.A. National Ambient Water Quality Criteria, One-in-a-Million Incremental Cancer Risk Estimate for Health and Welfare Protection (0.19 ug/l). Other constituents detected on two or more consecutive occasions below water quality goals include: benzene and toluene in wells MW-1, MW-3, MW-4A, and MW-5; and tetrachloroethylene and trichlorofluoromethane in MW-2A.
20. The groundwater degradation was caused by a release (discharge of waste) from the waste management unit.
21. The current plume of degraded groundwater creates or threatens to create a condition of pollution or nuisance.
22. California Water Code §13304 requires dischargers to cleanup waste and abate the effects of waste. Cleanup and abatement measures include corrective action measures as required under Title 27.
23. The Discharger has not implemented an evaluation monitoring program.
24. The full lateral and vertical extent of groundwater degradation has not been determined. Additional groundwater sampling locations are needed to delineate the nature and extent of

waste constituents in groundwater.

### COMPLIANCE CONSIDERATIONS

25. The discharge of waste constituents that has caused a degradation of groundwater is a violation of Waste Discharge Requirements Order No. 98-161, Prohibitions A.3, A.7, and A.10; Discharge Specification B.7; and General Provisions 1, 3, and 4 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Discharges Regulated by Title 27 and/or Part 258, August 1997* (hereafter Standard Provisions and Reporting Requirements), which requires that the discharge shall not create a condition of degradation or pollution.
26. The Discharger is in violation of Order No. 98-161, Detection Monitoring Specification E.4, which requires the Discharger not to exceed the water quality protection standard established pursuant to Monitoring and Reporting Program No. 98-161. Evidence of exceedence of the standard for volatile organics occurs when the constituent is detected by the appropriate method. Volatile organic compounds exceeding the water quality protection standard have been repeatedly detected in the monitoring wells (see Finding No. 19).
27. Subsections 20385 (a) (2) and (4) of Title 27 requires the Discharger to initiate an evaluation monitoring program whenever there is significant evidence of a release from the waste management unit during a detection monitoring program, and to institute a corrective action program when the Board determines that the assessment of the nature and extent of the release and the design of a corrective action program have been satisfactorily completed. These are considered cleanup and abatement activities pursuant to California Water Code §13304. These programs must be applied to all water bearing zones affected by the release, including perched water zones.
28. An evaluation monitoring program is used to assess the nature and extent of a release from a waste management unit and to design a corrective action program in accordance with §20430 of Title 27 [Title 27, §20425 (a)]. In assessing the nature and extent of a release from a waste management unit, the Discharger is obligated to include a determination of the spacial distribution and concentration of each constituent of concern throughout the zone affected by the release [Title 27, §20425 (b)].
29. Evaluation monitoring is required to be implemented when the detection monitoring program determines that waste constituents have leaked from the waste management unit (see Finding Nos. 19 and 20). In the case of organic compounds which are not naturally occurring, their presence in samples from detection monitoring wells is evidence of a release from the waste management unit. For naturally occurring compounds and constituents, evidence of a release is based on a measurably significant increase in their concentration(s) above the water quality protection standard.

30. Non-naturally occurring organic compounds have been continuously detected in samples from the detection monitoring wells (see Finding No. 19). This detection of waste constituents constitutes evidence of a release from the waste management unit. The Discharger is therefore obligated to initiate an evaluation monitoring program in accordance with §20425 of Title 27 in order to determine the extent of migration of the waste constituents, to assess their potential threat to the beneficial uses of the areal groundwater, and to prepare a corrective action program in accordance with §20430 of Title 27.
31. Section 20420 (k) (5) of Title 27 requires that within 90 days of determining a measurably significant evidence of a release, a discharger shall submit to the Board an amended report of waste discharge to establish an evaluation monitoring program meeting the provisions of §20425 of Title 27.
32. Section 20420 (k) (6) of Title 27 requires that within 180 days of determining a measurably significant evidence of a release, a discharger shall submit an engineering feasibility study for a corrective action program necessary to meet the requirements of §20430 of Title 27. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.
33. Section 20425 (b) of Title 27 requires a discharger to complete an evaluation of the nature and extent of a release from the waste management unit and to submit the assessment to the Board within 90 days of establishing an evaluation monitoring program.
34. Section 20425 (c) of Title 27 requires a discharger to submit an updated engineering feasibility study for corrective action based on the results of the evaluation monitoring program and an amended report of waste discharge to establish a corrective action program meeting the requirements of §20430 of Title 27 to the Board within 90 days of establishing an evaluation monitoring program.
35. An evaluation monitoring program was required to have been conducted within the regulatory time frame following the effective date of the Article 5 revisions to Title 23, California Code of Regulations, Section 2510 et seq. (Chapter 15, effective 1 July 1991) because a significant statistical evidence of a release has existed since 1989 (see Finding No. 19).
36. The Discharger has not complied with the time frames contained in former Chapter 15 or Title 27 for the completion of an evaluation monitoring program and the submission of a proposed corrective action program (see Finding Nos. 33 and 34), and is therefore in non-compliance with the applicable provisions of Title 27.

37. The Discharger, being a public entity, is unable to comply with the regulatory time frames contained in Title 27 due to the time required to conduct the public bidding process and budgetary constraints. As such, the Discharger has requested an alternate time schedule by which to comply with the evaluation monitoring program requirements contained in Title 27.
38. This Order establishes a time schedule for the completion of an evaluation monitoring program, the submission of an updated engineering feasibility study for the establishment of a corrective action program, and the initiation of a corrective action program. Failure to comply with the time schedule contained in this Order will subject the Discharger to a civil monetary liability (see Finding No. 42).
39. The issuance of this Order is an enforcement action by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, §21000, et seq.) in accordance with Title 14, California Code of Regulations, §15321 (a) (2).
40. Any person affected adversely by this action of the Board may petition the State Water Resources Control Board to review the action. The petition must be received by the State Board within 30 days of the date of issuance of this Order. Copies of the law and regulations applicable to filing the petitions will be provided on request.
41. Pursuant to §13304 of the California Water Code, the Discharger is hereby notified that the Board is entitled to, and may seek, reimbursement for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste, and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action required by this Order.
42. Pursuant to §13308 of the California Water Code, if the Regional Board determines there is a threatened or continuing violation of any cleanup and abatement order issued under §13304 of the California Water Code, the Board may issue an order establishing a time schedule and prescribing a civil penalty which shall become due if compliance is not achieved in accordance with that time schedule. The amount of the civil penalty shall be based upon the amount reasonably necessary to achieve compliance. The amount of the penalty may not exceed ten thousand dollars (\$10,000) for each day in which the violation occurs.
43. Any person who fails to achieve compliance in accordance with the schedule established in an order issued pursuant to §13304 shall be liable civilly in an amount not to exceed the amount prescribed by law. Failure to comply may result in referral of the matter to the Attorney General for judicial enforcement.

**IT IS HEREBY ORDERED** that, pursuant to §§13267(b) and 13304(a) of the California Water Code, the County of Merced, its agents, successors, and assigns, shall comply with the following tasks and time schedules. All work outlined below shall be performed under the direction of a California registered civil engineer or California registered geologist, as appropriate. Supporting data and rationale shall be submitted for each proposed plan. All plans and time schedules are subject to review and approval by the Executive Officer. Submitted time schedules become part of this order once approved or revised by the Executive Officer.

All monitoring wells and all other borings drilled to satisfy the requirements of Title 27 shall be logged during drilling under the direct supervision of a California registered geologist. Copies of all well logs shall be submitted to Board staff upon completion of drilling.

#### **EVALUATION MONITORING PROGRAM**

1. **By 1 March 1999**, the Discharger shall submit a work plan and time schedule for completing an evaluation monitoring program that meets the provisions of §20425 (b) of Title 27.
2. Within **120 days** of Executive Officer approval of the submitted work plan and time schedule pursuant to Order No. 1 above, the Discharger shall initiate the evaluation monitoring program in accordance with the approved work plan and time schedule.
3. The Discharger shall submit a completed evaluation monitoring report in accordance with the time schedule approved pursuant to Order No. 1 above. The report, completed pursuant to §20425(b) of Title 27, shall include, but not be limited to, the following information:
  - a. An analysis of all the information gathered to assess the nature and extent (lateral and vertical) of the release from the waste management unit, including how a determination of the spacial distribution and concentration of each constituent of concern throughout the zone affected by the release was accomplished.
  - b. A table listing the constituents of concern that includes the proposed concentration limit for metals and general water quality parameters based on a statistical evaluation of background concentrations of these parameters.
  - c. The water quality protection standard for evaluation monitoring based on a sufficient number of background monitoring points that represent the quality of groundwater (organic and inorganic compounds) in the uppermost aquifer that has not been affected by a release from the waste management unit in accordance with §20415 (b) (1) (A) and §20415 (b) (2) of Title 27.

- d. An evaluation of the landfill water supply well and the on-site irrigation well to determine whether it could lead to the migration of waste constituents into a lower aquifer.
  - e. Any proposed changes to the water quality monitoring systems at the facility necessary to meet the provisions of §20425 of Title 27.
  - f. Any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the facility necessary to meet the provisions of §20425 of Title 27.
4. Within **90 days** of the Executive Officer's concurrence that the nature and extent (lateral and vertical) of the release from the waste management unit has been determined, the Discharger shall submit, pursuant to §20425 (c) of Title 27, an updated engineering feasibility study for corrective action necessary to meet the requirements of §20430 of Title 27. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.
5. The discharger shall report to Board staff, in writing, the status of progress of the evaluation monitoring program. The Discharger shall submit these reports **quarterly**. More frequent reporting may be required as necessary to ensure the protection of human health or the environment.

#### **CORRECTIVE ACTION PROGRAM**

6. Within **90 days of Executive Officer approval** of the engineering feasibility study, the Discharger shall submit a plan and proposed time schedule to cleanup and abate the effects of all waste discharged to soil and groundwater at the site. The Discharger shall establish a corrective action program pursuant to §20425 (d) of Title 27 that meets the requirements of §20430 of Title 27. The report shall include, but not be limited to, the following:
- a. A detailed assessment of the nature and extent of the release from the waste management unit;
  - b. A proposed water quality protection standard in accordance with §20400 of Title 27, and all data necessary to justify each such limit;
  - c. A detailed description of proposed corrective action measures that will be taken to achieve compliance with the water quality protection standard proposed for the corrective action program; and

- d. A plan for a water quality monitoring network that will demonstrate the effectiveness of the proposed corrective action.
7. The Discharger shall take corrective action in accordance with the approved time schedule to cleanup and abate releases from the waste management unit and to ensure that the waste management unit achieves compliance with the water quality protection standard pursuant to §20390 of Title 27.
8. The Discharger shall implement corrective action measures, meeting the requirements of §20430 of Title 27, that ensure that constituents of concern achieve their respective concentration limits at all monitoring points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place. The Discharger shall take other action approved by the Executive Officer to prevent noncompliance with those limits due to a continued or subsequent release from the waste management unit, including but not limited to, source control.
9. The Discharger shall establish and implement a water quality monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program shall be based on the requirements for an evaluation monitoring program under §20425 of Title 27, and shall be effective in determining compliance with the water quality protection standard under §20390 of Title 27, and in determining the success of the corrective action measures pursuant to §20430 (c) of Title 27.
10. Cleanup and abatement measures taken without specific dates specified in this Order shall be initiated and completed by the Discharger within a period of time specified by the Executive Officer.
11. The Discharger shall submit reports on the effectiveness of the corrective action program. The Discharger shall submit these reports **quarterly**. More frequent reporting may be required as necessary to ensure the protection of human health or the environment.
12. If the Discharger determines that the corrective action program does not satisfy the provisions of this Order, the Discharger shall, within **90 days** of making the determination, make appropriate changes to the program.
13. Any time the Executive Officer determines that the corrective action program does not satisfy the requirements of this Order, the Discharger shall, within **90 days** of receiving written notification of such determination by the Executive Officer, make appropriate changes to the program.
14. Corrective action measures taken pursuant to §20430 (c) of Title 27 may be terminated when the Discharger demonstrates to the satisfaction of the Executive Officer that the concentrations of all constituents of concern are reduced to levels at or below their

respective concentration limits established with the water quality protection standard under §20390 or §20400 (c) of Title 27.

15. After suspending the corrective action measures, the facility shall remain in the corrective action program until an approved detection monitoring program that meets the requirements of §20420 of Title 27 has been incorporated into waste discharge requirements and until the Discharger demonstrates to the satisfaction of the Board that the landfill is in compliance with the water quality protection standard. The demonstration shall be based on the criteria contained in §20430 (g) (1) and (2) of Title 27.
16. The Discharger shall reimburse the Board upon receipt of a billing statement for oversight costs as described in Finding No. 41 above.

### TASK LIST

17. The Discharger shall complete the tasks outlined in this Cleanup and Abatement Order in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
a. Submit a work plan and time schedule for completing an evaluation monitoring program. (Order No. 1, above)	<b>1 March 1999</b>
b. Initiate the evaluation monitoring program in accordance with the approved work plan and time schedule. (Order No. 2, above)	<b>Within 120 days of Executive Officer approval of the work plan and time schedule</b>
c. Submit a completed evaluation monitoring program. (Order No. 3, above)	<b>In accordance with the approved time schedule for completion of the program</b>
<u>Task</u>	<u>Compliance Date</u>
d. Submit an engineering feasibility study for a corrective action program. (Order No. 4, above)	<b>Within 90 days of Executive Officer concurrence that the nature and extent of the release has been determined.</b>
e. Submit a plan and time schedule to establish a corrective action program.	<b>Within 90 days of Executive Officer approval of the</b>

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COUNTY OF MERCED  
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MERCED COUNTY

-11-

(Order No. 6, above)

**engineering feasibility study.**

- f. Implement a corrective action program.  
(Order No. 7, above)

**In accordance with the  
approved corrective action  
time schedule.**

If, in the opinion of the Executive Officer, the Discharger violates this Order, the Executive Officer may issue a complaint for Administrative Civil Liability or request the Board to refer the matter to the Attorney General for judicial enforcement.

GARY M. CARLTON, Executive Officer

by: \_\_\_\_\_  
LOREN J. HARLOW, Assistant Executive Officer

DATED: 6 October 1998

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